

## CHAPTER V

### CONCLUSIONS AND RECOMMENDATION

#### 5.1. Conclusion

The main objective of this study is to analyse the impact of hydroelectricity consumption per capita to GDP per capita in selected five ASEAN countries which include Indonesia, Malaysia, Thailand, Vietnam, and Philippines. In order to generate the result of this study, developed panel co-integration technique is employed and applied 1990-2016 time period. The consumption of renewable energy especially for hydropower for electricity becomes the key point to develop sustainable economic development.

According to panel unit roots test, all variables are stationary in first order condition. Panel co-integration test shows that hydroelectricity consumption per capita, labor force and gross capital formation are co-integrated to GDP per capita at 5% level of significant. These results imply that hydroelectricity consumption per capita, labor force and gross capital formation has long-run relationship to GDP per capita. FMOLS result generate coefficient estimate which stated that between GDP per capita and hydroelectricity consumption per capita has positive relationship as much as 0.1068%, GDP and gross capital formation also has positive relationship as much as 0.7556% while between labor force and GDP has negative relationship as much as 0.8302%. Based on Panel Granger Causality Test, there are bidirectional relationships in

GDP per capita and hydroelectricity consumption per capita which conclude feedback energy hypothesis is supported in this study. In particular, only Indonesia support feedback energy hypothesis while Thailand, Malaysia, Vietnam, and Philippines shows neutral energy hypothesis. Bidirectional also exist in GDP per capita and gross capital formation. In order to increase GDP per capita, hydroelectricity consumption per capita and gross capital formation must be improved.

## 5.2. Recommendation

Based on the analysis and discussion of the result of testing the hypothesis put forward some suggestions that may be useful for:

1. Government – as the policy maker, government should improve the infrastructure of hydropower especially for hydroelectricity in order to establish well distribution of electricity and sustainability of economic development. It is better to improve small and micro scale of hydroelectricity which needs smaller investment cost than large scale hydroelectricity which become a problem of developing countries. Improving the quality of labor will boost GDP and also expanding gross capital formation will lead improvement in hydroelectricity sector and even economic growth.
2. Future Researcher – as reference material for further research, could focus on other countries and tried to use other methods and variables, or more variables to compare with this study.